



Parkinson's Perspective

Newsletter of the Colorado Parkinson Foundation, Inc. and
the Colorado Springs Parkinson's Support Group
www.co-parkinson.org | (719) 884-0103

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The Colorado Springs Parkinson's
Support Group (part of CPF) meets
10AM, the first Saturday of each month
at the Central United Methodist Church,
4373 Galley Rd, Colo Spgs, 80915

(with exceptions to be noted
in this newsletter)

Next Meeting: Saturday, May 4th – 10:00 am – 1:30 pm

We will be Zooming and recording this meeting

Location: Central United Methodist Church, 4373 Galley Rd-just east of Murray Blvd.

9:30am – Come early for a group sing-along with music therapist, Heather Johnson.
See more about Heather's business under 'Other Opportunities' later in this newsletter.

9:45am – Everyone else come a few minutes early to
check in, greet other members and ask questions.

First time visitors: Be sure to sign in, get a name tag and proceed
to the visitors' table for some special attention and information.

*Knowledge is power and enables us all to live well, so plan to attend
the meetings at Central United Methodist Church.*

May Program Topic: Launching NeuroPong in Colorado Springs!

Speaker: Dr. Antonio Barbera, MD

About the Speaker: As a doctor, Dr. Barbera specialized in Obstetrics and



Gynecology. He helped thousands before Multiple Sclerosis (MS) forced him to give up his career in 2017. However, he found a new way to help others, and himself, get better by playing pingpong. Once he discovered that table tennis was alleviating his MS related discomforts, Dr. Barbera founded a nonprofit organization called Table Tennis Connections. The main core of his organization is the NeuroPong™ Project, a table tennis program tailored to people living with MS,

Parkinson's, Mild Cognitive Impairment/Alzheimer's and other neurodegenerative conditions. He is a member of the International Parkinson and Movement Disorder Society and of the Movement Disorders Center of the University of Colorado, School of Medicine. Using table tennis as a form of prehabilitation and neurorehabilitation, he is teaching his NeuroPong™ Program, aiming to improve both motor and cognitive function of people living with the above-mentioned conditions.

Dr. Barbera believes that by learning new table tennis skills and doing exercises specifically designed to challenge the brain, participants can improve their lives and conditions.

The meeting will be followed by a potluck

The May Potluck – Mexican Dishes!

If you would like to sign up to be a provider of the main dish or to bring a side dish/dessert for the meeting, you can contact Bill Hicks at [redacted] or potluck@co-parkinson.org, no later than Wednesday, May 1st and tell him what you would like to bring.

Remember that bringing food for the potluck is voluntary.

We look forward to seeing you there!

The President's Corner | Jill Reid-Acting President, CPF & CSPSG



I don't know about you, but I'm really looking forward to hearing Dr. Antonio Barbera's presentation this month. We don't usually have the same speaker twice in twelve months, but I've made a special exception in his case for two reasons: he is a dynamic and inspiring speaker, and his NeuroPong program is about to be launched here in Colorado Springs. For those of you who heard his presentation in November, try to remember how excited we all were at the prospect of seeing the fantastic benefits of NeuroPong for ourselves. And now that possibility has become a reality. I'm very sure

of two things: his presentation will be every bit as effective as the first one, and he's going to tell us exactly when the NeuroPong classes will begin this spring at the downtown YMCA. Please plan to join us to hear Dr. Barbera at our May meeting!

One of the best things about the Colorado Springs Parkinson's Support Group (CSPSG) is that we constantly learn from each other how to live well with Parkinson's. Most recently, we relearned that when Parkinson's symptoms suddenly accelerate and that's all that we see, it is never Parkinson's, which progresses slowly—ALWAYS; it's something else, like an infection (urinary tract infections come to mind), and it's imperative to find out what that something else is and get it treated. The new thing we learned is that doctors SHOULD give Parkinson patients prescriptions for antibiotics when they can't find any cause for the sudden acceleration of Parkinson's symptoms, even if lab tests show no evidence of infection. Many doctors, especially those associated with hospitals and practices that have strict guidelines as to when antibiotics can be prescribed, can't or won't do this. Medical providers that are more independent are more likely to be willing to prescribe antibiotics and even prescribe refills to have on hand for the next time the Parkinson's symptoms worsen quickly. They are the ones that understand that Parkinson's always always always progresses slowly. We should all be looking for medical providers that are willing to prescribe antibiotics when no cause for the downturn is apparent and share who those providers are with each other.

In recent months, we have been short on food for our potlucks. Unfortunately, while providing the opportunity for socializing is one of CSPSG's main goals, CSPSG can't afford to continue to pay for food to make up the monthly shortfall. The potlucks are a key part of our monthly meetings, a special time for socializing, getting to know each other, and, yes, learning from each other. We really need the potlucks to continue to be an integral part of each meeting. If you can afford to, please consider contributing main courses, side dishes, or desserts whenever you attend our meetings. But if you can't afford to, please don't hesitate to join us for the potlucks anyway so that you don't miss out on the benefits they provide.

I highly recommend this month's comedy, True Lies, starring Arnold Schwarzenegger and Jamie Lee Curtis. A terrific spoof on spy movies, it is full of laughs, excitement, suspense, improbable circumstances (which are funny in themselves), and good-guys-win-again themes.

Help spread some sunshine to our members!

If you know of a Parkinsonian or PD caregiver that is having a tough time (illness, surgery) or one of our members has passed away, please let our Sunshine Chairman, MJ Thompson know. She can be reached at [REDACTED].

IMPORTANT — PLEASE READ

Putting on fundraisers is a lot of work and very difficult for Parkinsonian's with their limitations and their overworked caregivers to devote the time and effort to add fundraisers to their plates. We did that for years and each one took nearly a year to organize and put on. Because they are so much work we try not to have to do that anymore. However, without fundraisers, the support group depends strictly on donations and dues to fund our costs. Examples of how we spend the money to support the Parkinson's community in southern Colorado follow:

- Virtual office fees (the Kelly Johnson Blvd. mail drop)
- Liability insurance
- Meeting venue costs
- Lending locker rental including hiring movers to move large items such as hospital beds and lift chairs
- Business supplies for nametags, envelopes, stamps, ink, end-of-year mailings, equipment tags, etc
- Audio-visual equipment needed for the guest speakers and to record and Zoom meetings
- CPF software support to maintain and add new features when needed
- Handouts for outreach training and training certificates
- Website & Zoom fees
- Picnic venue cost
- Potluck supplies and food
- Table decorations
- Christmas party expenses (photographer, main dish, prizes, entertainment, gifts for those who go above and beyond)
- Thanksgiving and picnic main dishes
- Cookbook printing
- Research funding

In other words, everything we need to run the organization minus the cost of labor which is provided exclusively by volunteers at no cost to us.

We don't want to make dues mandatory so if you can afford it, we're asking you to help us help you by paying your voluntary dues of \$25 a year to help defray the cost of the services we provide and running the support group.

Program Review: April 6th, 2024

| by Secretary Patricia Beatty

What an enjoyable and informative gathering we had with a lot of members and visitors attending... every table was full! Thank you to everyone who was there. We hope you found both presentations beneficial and that you were able to take a bit of helpful information home that will be useful.

Our first presenter was Laura Treglia from the Ormao Dance Company.

She discussed the Benefits of Dance for Parkinson's and shared her passion for people with Parkinson's. Laura offered results from 45 research studies that affirm the benefits for people with Parkinson's of participating in dance, some of which are movement, agility, balance, and cognitive function.

The Ormao Dance Company offers a class for people living with Parkinson's. It is "a dance movement class based on the Dance for PD model, developed to engage participants' minds and bodies in a creative, enjoyable social environment. Elements of music, imagery, narrative and creativity are used to develop artistry and grace, while addressing Parkinson's specific concerns such as balance, flexibility, coordination, gait, and social isolation."

It was, however, more than just a slide presentation with lots of research facts.

A group of seven Dance for Parkinson's class members led everyone in a "dance" that served as an introduction of what to expect from the class. Additionally, they performed an original dance routine that expressed their enjoyment of the class.



One Parkinson person who has benefited by the dance program stated that, "If movement, music, and companionship could be put into a pill it would be a miracle. This is what this dance feels like to me."

Two Dance for Parkinson's classes are available:

Friday 11:00-12:00 & Tuesday 11:30-12:30

Ormao Dance Company,

10 S. Spruce St., Colorado Springs, CO

The cost is \$5.00 per class and based on what the class members reported, it is well worth it. You can join the class in person at the above address, or on Zoom using the link available at www.ormaodance.org. No prior dance experience is required, and all, including spouses, friends, and care partners, are welcome.

Ormao's mission statement is threefold:

- To provoke, challenge, and entertain those in our community and beyond through the creative language of dance.
- To encourage diversity and experimentation in the arts.
- To enrich and enhance cultural opportunities within the southern Colorado's communities and schools by spearheading initiatives that bring dance to the public and programs that educate people of all ages.

For further information, go to www.ormaodance.org or contact Laura Treglia at ormaodanceforpark@gmail.com.

Our second presenter was Dr. Brian Grabert, MD.



Dr. Grabert, a retired neurologist who specialized in Parkinson's disease, is familiar to those who have been in our support group for very long. He has been a widely respected Parkinson's neurologist in our local community for many years. He and his wife, Julianne, ran CSPSG in the 90s when it was called JTPSG. Since his retirement he has continued to speak to our group, as well as offering his expertise in answering your questions in our very own Parkinson's Perspective monthly newsletter.

Some of the questions/concerns he addressed was:

- How accurate is a DAT scan for diagnosing Parkinson's?

He explained that there are 3 cardinal symptoms of Parkinson's: tremors, slow movement, and rigidity. Commonly, if you have 2 of the 3 symptoms, Parkinson's is diagnosed. If there is a level of uncertainty about a Parkinson's diagnosis, the DAT

scan can (most of the time) be definitive. In his experience he has found it to be about 99% accurate.

- Is "sundowning" related to Parkinson's medications?

Dr. Grabert explained that the term "sundowning" refers to a state of confusion that occurs in the late afternoon and lasts into the night. Patients become confused, anxious, and sometimes combative. This disorder is most often seen in people with dementia. He suggested light therapy could be helpful and said that with most cognitive issues, as well as with Parkinson's, exercise is of the utmost importance.

- Is there a "biomarker" for identifying Parkinson's?

[NOTE: a biomarker is defined as a measurable substance in an organism whose presence is indicative of some phenomenon such as disease, infection, or environmental exposure. (source: Oxford Dictionary)]

Dr. Grabert said the simple answer is "yes" - Alpha-synuclein. This is a protein that, if detected, serves as the gold stand-

ard to establish a definitive diagnosis.

- Can a person have both essential tremors and Parkinson's tremors concurrently?

According to Dr. Grabert, an essential tremor is often confused with a Parkinson tremor. People with Parkinson's usually have tremors when they're at rest while people with an essential tremor generally have tremors during movement. It is helpful to monitor the response to carbidopa/levodopa on the person's tremor/s in determining if it is essential or Parkinson's, and yes, they can both be present. He also noted that there are no ill effects from carbidopa/levodopa on a person who does not have Parkinson's.

- How can apathy in a Parkinson's person be treated?

Dr. Grabert said yoga (and dance) is especially helpful in treating anxiety and some medications may be helpful as well, but it is very difficult to treat apathy. Unfortunately, medication can make it worse. His best advice is to enlist the help of family and friends to offer encouragement and motivation.

Thank You!

Thanks to ALL who brought food and to those that helped set up & cleanup at the last two meeting!

June Newsletter
Input Deadline: May 10th

Call or e-mail Julie at:
[REDACTED]
db_mgr@co-parkinson.org

CSPSG Executive Committee Meeting

May 7th at 10 am at a place to be determined

Contact Jill at president@co-parkinson.org if you haven't been to an Executive Meeting so we will know that you're coming and to get the address. Leave your email address so Jill can contact you if anything changes.

Parkinson's Disease Related Providers:

If you are seeing a provider not listed here that has given you excellent care with any Parkinson's issue, let Julie know at db_mgr@co-parkinson.org so that they can be added to this list.

The following providers have been recommended by multiple members:

Colorado Springs

Dr. Bradley Priebe, MD – Neurologist at Peak Neurology, PC; (719) 445-9902

Steven Swank, PharmD, BCACP – Peak Neurology, Clinical Pharmacist Specialist; (719) 445-9902

Dr. Aparna Komatineni, MD – Neurologist at Centura Penrose Hospital and UCHealth; (719) 694-3595

Dr. Andrea Manhart, DO – Neurologist at UCHealth; (719) 365-7300

Dr. Lael Stander, MD – Neurologist at UCHealth; (719) 365-7300 Note: Does well w/PD vision issues

Elizabeth Harmon, PA – UCHealth; (719) 365-7300

Melinda McClenden, NP – UCHealth; (719) 365-7300

Dr. Gregory Ales, DO – Neurologist at CS Neurological Associates; (719) 473-3272

Dr. Kevin Scott, MD – Neurologist at UCHealth; (719) 365-7300

Dr. Monica Stanton, MD – Primary Care Physician at UCHealth in Monument; (719) 364-9930

Bettner Vision – Neuro-Ophthalmology Vision Therapy; (719) 282-0400

Denver

Dr. Michael Korsmo, MD – Neurologist at UCHealth, Anschutz Medical Campus; (720) 848-2080

Dr. David VanSickle, MD – Neurosurgeon at Neurosurgery One; (720) 638-7500
Note: DBS expert

Erin Van Dok, OD – Neurological Optometrist at UCHealth Sue Anschutz-Rodgers Eye Center; (720) 848-2020

Dr. Victoria Pelak, MD – Neuro-ophthalmology, UCHealth Sue Anschutz-Rodgers Eye Center; (720) 848-2020

Dr. Trevor Hawkins Neurologist at UCHealth Neurosciences Center, Anschutz Medical Campus; (720) 848-2080

Dr. Brooke Heffernan, MD – Movement Disorders Fellow at UCHealth, Anschutz Medical Campus, (720)848-2080



Send in Your Questions!

Dr. Grabert has generously agreed to answer your questions pertaining to Parkinson's Disease each month in our newsletter column called:

"Ask the Doctor!"

If you have questions you'd like to submit to Dr. Grabert, send them in an email to Julie, our newsletter coordinator, db_mgr@co-parkinson.org.

Potluck Favorites—Shakin' & Bakin' Cookbook Now Available!

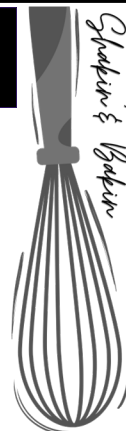
The updated cookbooks are here!

The price is a donation or free if you can't afford to donate. You can order them from Julie Pfarrer at db_mgr@co-parkinson.org.

The cookbooks are bound so that new recipes can be added in the future. So continue to send in your favorite recipes – old or new family recipes, newly discovered favorite recipes, etc. We only want recipes that you have actually tried and liked – not ones that you think should be good but haven't tried or tasted.

All favorite recipes are welcome.

Send them to project@co-parkinson.org.



Recipe of the Month: VEGETABLE FRATTATA

Our low carb/good fat ketogenic study that was completed in 2021 showed incredible results. Not only was there remarkable improvement in the symptoms of Parkinson's but also with overall health in general (including the health of caregivers who chose to change their diet along with their Parkinsonian). Since it seems clear that everyone's health would improve exponentially if we all changed our diet to eat this way and since we have potlucks, we thought we would feature an easy low carb/good fat recipe or two in the newsletter each month to promote healthy eating.

If you have a favorite low carb/good fat recipe you'd like to share, please send it to Julie at: db_mgr@co-parkinson.org.

Ingredients:

1 Tbl olive oil

2 C small mushrooms, sliced

1 ½ C cooked broccoli

Handful of raw spinach

2 large + 6 extra large (jumbo) eggs (or equivalent)

1 C heavy cream

½ C grated or shredded gruyere cheese

1 Tbl chopped thyme

½ tsp nutmeg

1 tsp kosher salt

½ tsp ground black pepper

¼ C grated Parmigiano - Reggiano or parmesan cheese

Directions:

– Preheat oven to 425°

– Heat oil in 10" oven-proof skillet over medium-low heat

– Add mushrooms & cook until well browned & cooked through, stirring occasionally for 10 minutes.

– Add broccoli & spinach until spinach leaves are wilted & remove from heat.

– In a large bowl combine eggs, cream, thyme, nutmeg, cheese salt & pepper and whisk.

– Pour over veggies.

– Put pan in oven & cook 20-30 minutes until puffed & set in the middle.

– Remove from oven & sprinkle with gruyere & bake another 3 minutes until cheese is just melted.

– Cut into 6-8 wedges & serve hot.



Janet Adams	Sue Coen	Ken Harder	Donald Joiner	LuAnn Nickelson	Henry Schulz
Owen Briggs	Anita Damon	Becky Helmsing	Donna Malmgren	Eileen O'Reilly	Sonya Shannon
Pat Bush	John Fly	Ross Huddleson	Phil McDonald	Katrina Rochon	Hope Winkler
Deborah Carnes	Joan Foutz	Judy Ireland	Carol Morris	Randy Rogers	Valerie Wollen
Patrick Carrigan	Carol Gugat	Don Jaeger	Jaros Murphy	Meredith Sage	

Your birthday isn't listed?
Fill out the membership form
and check BD listed "YES".

Other Local Support Groups:

Parkinson's Caregivers Support Group

All family caregivers of persons with Parkinson's are invited to come and participate in our discussion meetings. We meet the 3rd Thursday of each month from 10:00 to 12:00 at the Central United Methodist Church, 4373 Galley Rd, Colo Spgs, 80915. Contact Brenda Hicks at [redacted] or [redacted] to let her know you are coming.

Ladies w/ Parkinson's Support Group

If you are a fun-idea person, please consider volunteering to lead this valuable group. If you're interested please notify Julie Pfarrer at db_mgr@co-parkinson.org or [redacted].

Essential Tremor Support Group

Meeting Location: ENT Conference Room - Pikes Peak Library District.; Colo Spgs Library 21c, 1175 Chapel Hills Drive. For meeting dates/times or for questions, contact Jim Sanchez at [redacted] or [redacted].

Tri-Lakes Parkinson's Support Group

Meets the 3rd Saturday of every month at 10 am at the Monument Community Presbyterian Church, 238 3rd Street, Monument. For more info contact Syble Krafft at [redacted] or Barry Hanenburg [redacted].

Other Opportunities:

Adult Speech Therapy:

Outpatient speech therapy services. Personalized speech therapy for restoration of function due to illness or injury.

Treating:
Parkinson's: Voice & Swallowing
- SPEAK OUT!
- LSVT

For more information, contact Jana Hothan, MA, CCC-SLP at slp@janahothan.com or by phone at (719) 338-8165.

Parkinson's Sing-a-Long Group:

Square Music Co offers individual music therapy services with Heather Johnson, MT-BC! Individual sessions can be held in person in the Colorado Springs area or via telehealth. Heather has over 5 years of experience working with neuro populations and hosts a Parkinson's singing group before each support group meeting at 9:30 am as well! Music therapy with Parkinson's works towards vocal strength, control, and longevity, increasing fine and gross motor skills, gait training, and other types of therapeutic goals through individualized music experiences. To learn more or schedule a free consultation, call/text Heather at (719) 345-2887 or email her at heatherjohnson@squaremusic.co.

PD Exercise Classes:

Falcon Exercise Group

Mon & Fri: 11:00 – noon, Grace Community Church. For more info contact Catherine Reed at [redacted]

UCCS Center for Active Living at the Lane Center

Power Moves group exercise and Balance & Agility classes. For more information call (719) 255-8004 or email CAL@uccs.edu

NIA Class

Moving to Heal – the art of feeling better; slower movements with joy and purpose. NIA works with balance, breath, cognitive mind/body function, mobility and stability. You can go at your own pace. Stop if you want, sit down and dance while sitting in a chair for a while. All while dancing to music from all genres; Jane, the instructor, often asks what we need that day and works her routine around what can help. She has done a wonderful job making the routines fit our Parkinson's needs. Cost: \$10 a class
When: Every Friday at 10:30 am
Where: 525 E Fountain Blvd. MACS–corner of Fountain & Royer

One-on-One Physical Therapy

For people with Parkinson's Disease and all movement disorders. Provided by Danielle (Spivey) Mulligan, PT, MSPT who is a Physical Therapist, Certified Vestibular Therapist, LSVT and PWR for Parkinson's.
Where: 5818 N. Nevada Avenue, Suite 325 Phone Number: 719-365-6871

Rock Steady Boxing – Boxing with Love

New Rock Steady Boxing for folks with Parkinson's Disease at the Boxing with Love Gym Tues @ noon (please come 15 min early if your first time) 1710 Briargate Blvd. Ste 100 (Next to Dicks Sporting Goods). For more info contact Karen Bishop PT, DPT at love@rsbaffiliate.com

Max Capacity NeuroFitness

Free Boxing, PWR Bootcamp and Cardio Circuit for people with Parkinson's. Cognitive Cardio class available for \$10/class! Physical therapist Emily Moncheski at Max Capacity, PLLC, offers individual Parkinson's physical therapy, most insurance accepted Conveniently downtown 525 E. Fountain Blvd. Suite 150 Contact Emily at emily@maxcapacitypt.com or call: 719-213-3996, fax: 719-284-4624

Neuro Logic Rehabilitation and Wellness

One-on-one physical therapy and wellness services for people with Parkinson's Disease and other movement/neuro disorders in the comfort of their home with outpatient mobile services. We come to you, to meet you where you are in your treatment & diagnosis! Board Certified Clinical Specialist in Neurologic Physical Therapy Certified PWR! (Parkinson's Wellness Recovery) Moves Therapist For more information, contact Ryan Mueller, PT, DPT, NCS at 719-306-0009 or ryan@neurologicrehab.com Neurologicrehab.com / Fax: 719-691-7994

Dance for Parkinson's

Moving with joy, creativity, and community to support people living with Parkinson's. All are welcome and care partners are encouraged to move with us! Classes meet in person every Tuesday at 11:30 am and every Friday at 11:00 am at Ormao Dance Company, 10 S. Spruce Street. \$5/class. Free for care partners. You can also join us for this class online. Visit our website www.ormaadance.org and click on "Dance for Parkinson's" under the "Outreach" tab to get the Zoom link. Contact Laura at laura.hymers@gmail.com or 719-640-8478

YMCA PD Exercise Classes

We utilize exercise as medicine to increase quality of life so that you can get better and stay better.
Tri-Lakes YMCA: PWR!Moves; Tues & Thurs, 1:00-2:00 PM
Briargate YMCA: PWR!Moves; Mon, Wed, Fri, 1:30-2:30 PM
YMCA at 1st & Main; PWR!Moves; Mon & Wed, 1:15-2:15 PM
For more info contact Travis Lerma at tlerma@ppymca.org

Colorado Springs Rocksteady Boxing

"Let's kick some PD BUTTI!" Tues, Wed, & Thurs: 10am–11:15am & 11:45am–1:00pm Location: Otis Park. 731 Iowa Ave. For more info, call Bill O'Donnell at 719-243-9422

High-intensity Exercise Can Reverse Neurodegeneration in Parkinson's Disease

By Isabella Backman – Yale School of Medicine, 2/23/24

High-intensity exercise induces brain-protective effects that have the potential to not just slow down, but possibly reverse, the neurodegeneration associated with Parkinson's disease, a new pilot study suggests.

Prior research has shown that many forms of exercise are linked to improved symptoms of Parkinson's disease. But there has been no evidence that hitting the gym could create changes at the brain level. Now, a small proof-of-concept study involving 10 patients showed that high-intensity aerobic exercise preserved dopamine-producing neurons, the brain cells that are most vulnerable to destruction in patients with the disease.

In fact, after six months of exercise, the neurons actually had grown healthier and produced stronger dopamine signals. Dopamine is a chemical that helps brain cells communicate with each other. The researchers published their findings in *Parkinson's Disease* on February 9.

The medications we have available are only for symptomatic treatment. They do not change the disease course. But exercise seems to go one step beyond and protect the brain at the neuronal level.

Sule Tinaz, MD, PhD

"This is the first time imaging has been used to confirm that the biology of the brain in those suffering with Parkinson's disease is changed by intense exercise," says Evan D. Morris, PhD, professor of radiology and biomedical imaging at Yale School of Medicine and co-principal investigator of the paper.

What causes Parkinson's disease?

Parkinson's disease is a neurodegenerative disorder caused by the misfolding of alpha synuclein protein that is naturally present in our cells. The misfolded protein accumulates within neurons and damages them.

The dopamine-producing cells that are most affected reside in the part of the brain known as the substantia nigra, an area near the base of the brain. As these cells die off, the lack of dopamine creates the physical symptoms of the disease, particularly motor symptoms such as tremors and slowed movement. It's a gradual progression, and at the time of diagnosis, typically patients have already lost over half of their dopamine-producing neurons.

"By the time patients clinically manifest the typical motor symptoms of Parkinson's, you can assume that the neurodegenerative process actually started much earlier, maybe a decade or two," says Sule Tinaz, MD, PhD, associate professor of neurology and

co-principal investigator.

The most common available medication, levodopa, replaces the missing dopamine. While the drug is effective in alleviating motor symptoms, it does not prevent the ongoing neurodegeneration and can cause undesirable side effects with long-term use such as uncontrolled excessive movements [dyskinesia]. There is currently no cure for the disease.

Exercise plays a vital role in treating Parkinson's disease

Exercise is an essential component of Parkinson's disease management. In fact, some gyms offer exercise programs specifically for the condition. "I always tell patients that exercise is a part of their treatment," says Tinaz. "The same way I prescribe medication, I also prescribe exercise."

In Connecticut, Michelle Hespeler is the founder of Beat Parkinson's Today, an evidence-based non-profit exercise program that offers online and in-person classes throughout the state. Hespeler was inspired to create her program after being diagnosed with the disease herself. "She took all of the elements of high-intensity interval training and combined it with the needs of people with Parkinson's disease," says Tinaz.

Previously, two well-designed clinical trials have shown that engaging in high-intensity exercise—in which participants reach around 80% to 85% of their age-appropriate maximum heart rate—three times a week for six months is correlated with less severe motor symptoms. "These trials suggested that exercise really is disease-modifying in a clinical sense," says Tinaz. The Yale team used these clinical trials as a model for its new study.

Using brain imaging to study impact of high-intensity exercise

For their study, the Yale researchers recruited patients who had been diagnosed with Parkinson's disease for less than four years. At this early stage of their disease, the patients had not yet lost all of their dopamine-producing neurons. All participants initially went through a two-week trial period to ensure they could handle the intensity of the exercise classes before enrolling.

After the trial period, the participants received their first round of brain scans. One was an MRI scan that measured the amount of neuromelanin—a dark pigment found in dopamine-producing neurons—in the substantia nigra. The second scan was a PET scan that measured dopamine transporter (DAT) availability. DAT is a protein that helps the neurons maintain proper do-

pamine levels.

Ten participants completed a six-month high-intensity exercise program through Hespeler's Beat Parkinson's Today program. Due to the COVID-19 pandemic, the classes took place online. These classes involve High Intensity Functional Intervals [HIFI] designed to keep participants' heart rates elevated for the majority of the workout. Participants wore heart rate monitors to ensure they were reaching their target heart rates and other wearables (e.g., a Fitbit) to record their movements. After the six months, the researchers repeated the MRI and PET scans.

High-intensity exercise reverses neurodegeneration

Following the six-month program, brain imaging showed a significant increase in both the neuromelanin and DAT signals in the substantia nigra. This suggests that high-intensity exercise not only slowed down the neurodegenerative process, but also helped the dopaminergic system grow healthier.

"Where we would have ordinarily expected to see a decline in the DAT and neuromelanin signals, we saw an increase," says Bart de Laat, PhD, associate professor adjunct in psychiatry and the study's first author. "We had hoped to see that the neurodegeneration would not progress as quickly or stop temporarily, but instead we saw an increase in nine out of 10 people. That was remarkable."

The study highlights the importance of including an exercise regimen as part of one's Parkinson's treatment plan. "The medications we have available are only for symptomatic treatment. They do not change the disease course," says Tinaz. "But exercise seems to go one step beyond and protect the brain at the neuronal level."

While this is an exciting finding, additional research will be needed to fully understand the neuroprotective effects of exercise. The team hopes that its work will inspire other scientists to prioritize research into exercise and its disease-modifying potential.

Parkinson's disease is the fastest-growing neurological disease. By 2040, researchers estimate that over 12 million people worldwide will be living with the condition. The new study holds promise that exercise can help mitigate the enormous personal and economic costs the disease poses. "Exercise is accessible to everyone, is relatively cheap, and is safe [if your health care provider approves]," says Tinaz. "If it also has this neuroprotective effect with the potential to reverse the disease course, that is something to celebrate and to study."

Loss of dopamine nerve cells affects opposite side movement sequences

By Steve Bryson, PhD – Parkinson's News Today, 2/23/24

Study offers opening for treatment tailored to type of neurons lost in disease

The selective loss of dopamine-producing nerve cells in one side of the brain of mice, to mimic Parkinson's disease, impacted the length of movement sequences on the opposite side of the body, but not the same side, a study shows.

The study's researchers discovered two distinct populations of these nerve cells in the same brain region, one that initiated movement, with greater activity before movement on the opposite side of the body, and another that modulated reward and motivation, which were not associated with body sides.

"These findings have implications for understanding the asymmetry in movement vigor observed in [Parkinson's disease]," wrote researchers in "Dopamine neuron activity encodes the length of upcoming contralateral movement sequences," which was published in Current Biology.

"Our findings suggest that movement-related dopamine neurons do more than just provide general motivation to move — they can modulate the length of a sequence of movements in a contralateral [opposite] limb," study lead Rui Costa, PhD, at the Champalimaud Foundation, Portugal, said in a press release. "In contrast, the activity of reward-related dopamine neurons is more universal, and doesn't favor one side over the other. This reveals a more complex role of dopamine neurons in movement than previously thought."

These data "could potentially enhance management strategies in the disease that are more tailored to the type of dopamine neurons that are lost, especially now that we know there are different types of genetically defined dopamine neurons in the brain," Costa said.

Blocking IL-6 release may rescue dopamine-producing nerve cell loss

Dopamine in motivation and movement
In Parkinson's disease, the progressive loss of nerve cells that produce the neurotransmitter dopamine, or dopaminergic neurons, occurs mainly in a brain region called the substantia nigra.

Dopamine is well known to act on brain areas that provide pleasure, reward, and motivation. Still, a drop in dopamine levels in Parkinson's patients due to the loss of dopaminergic neurons leads to characteristic motor symptoms, including slow movements (bradykinesia) and a reduced amplitude, or length, of movement (hypokinesia).

As a result, it's been proposed that dopaminergic neurons influence movement by modulating the motivation to move. In Parkinson's patients, however, movement problems often start on one side of the body due to the loss of dopaminergic neurons on the opposite side of the brain. Thus, movement deficits are not generalized to the whole body.

"Dopamine is most closely associated with reward and pleasure, and is often referred to as the 'feel-good' neurotransmitter," said first author Marcelo Mendonça, MD, PhD. "But, for dopamine-deficient individuals with [Parkinson's], it's typically the movement impairments that most impact their quality of life."

"One aspect that has always interested us is the concept of lateralisation. In [Parkinson's],

symptoms manifest asymmetrically, often beginning on one side of the body before the other," said Mendonça, who led a research team with Costa to investigate the role of dopamine in motivation and movement.

The researchers developed a behavioral task wherein mice used a paw at a time to press a lever to obtain a reward (a drop of sugar water). At the same time, the activity of dopaminergic neurons in the substantia nigra was monitored in real-time using a tiny, wearable microscope.

The more the mouse was about to press the lever with the paw opposite the brain side we were observing, the more active neurons became.

Although the dopaminergic neurons that initiated movement were found on both sides of the brain, neuronal activity for movements on the opposite side of the body (contralateral) was higher than for same-side body movements (ipsilateral).

"The more the mouse was about to press the lever with the paw opposite the brain side we were observing, the more active neurons became," Mendonça said. "For example, neurons on the right side of the brain became more excited when the mouse used its left paw to press the lever more often. But when the mouse pressed the lever more with its right paw, these neurons didn't show the same increase in excitement. In other words, these neurons care not just about whether the mouse moves, but also about how much they move, and on which side of the body."

The activity in these movement-initiation neurons reflected the number of lever presses, or the amplitude, or length, of the movement sequences. This occurred on the opposite side, but not the same side, of the body. And, the selective activity of these neurons remained stable over time.

A separate population of dopaminergic neurons
Also, data indicated there were two distinct populations of dopaminergic neurons in the substantia nigra, one that initiated movement and another that modulated reward. Moreover, a neuronal response to reward appeared generalized, meaning it wasn't associated with a side of the body.

"There were two types of dopamine neurons mixed together in the same area of the brain," Mendonça said. "Some neurons became active when the mouse was about to move, while others lit up when the mouse got its reward. But what really caught our attention was how these neurons reacted depending on which paw the mouse used."

In the last set of experiments, the researchers mimicked Parkinson's by selectively depleting dopaminergic neurons in the substantia nigra on one side of the brain. The depletion reduced the length of movement sequences on the opposite side of the body, but not the same side.

"We found that activity in a subset of [substantia nigra] dopaminergic neurons encodes the length of contralateral sequences — a dimension of movement vigor — before movement initiation," the researchers wrote. "These results uncover a previously unknown relationship between the activity of [dopaminergic neurons] before movement and the length of movements."

LENDING LOCKER INVENTORY		Items in our LENDING LOCKER that are free for the taking:	
<i>If you would like to borrow any of the equipment listed here, please contact: Mary Sauvain at (719) 331-3424.</i>		<i>Contact Julie Pfarrer at db_mgr@co-parkinson.org if interested in any of these items</i>	
Back brace	1	Aluminum walker tennis balls	4
Bed cane	7	Aluminum walker tray	1
Bed pan	1	Bedside toilet commode liners: 3 big boxes with 6 smaller boxes in each	
Bed rails	1	Bibs	8
Bed risers (set)	1	Blood Pressure Monitor	1
Bedding lifters	2	Disposable bed pads	7
Bedside toilets	5	Easy sip hydrate bottle	1
Canes	8	Gate belt	8
Chair/sofa cane	2	Hospital bed bedding: 2 sets of sheets 1 mattress pad	
Crutches (set)	2	Hospital gown	1
Double floor exercise pedals	1	Hospital slippers – XL & XXL	2
Freestanding toilet rails	1	Male portable urinals, new in individual packages – 32 oz capacity	4
Hospital bed	2	Plastic handicap plate	2
Hospital bed food trays	2	Plastic handicap bowl	1
Hoyer Lift	1	Pill crusher, storage, & drink cup combination	1
Lazercue for freezing help	1	Rehab squeeze balls	2
Lift chairs	0	Reusable bed pads	8
Lift-ware tremor compensating utensils	1 set	Waterproof twin mattress protector	1
Monthly med carousel with reminder alerts	1	Weighted utensils	6
Pick-up assist	6	Thick-it	1
Shower seats/benches	7	Transfer pads – can handle a person up to 300 lbs	4
Sock helper	2	Attend advanced briefs, maximum protection–large –24 count	3 pkgs
Stand-up assist	1	Cardinal health guards for men - extra heavy absorbency -14 count	2 pkgs
Standup Walker	1	Depend men's guards – 52 count – 1 unopened and 3 opened with a few missing	8 pkgs
Squatty potty	2	Fitright guards for men – 52 count	1
Swivel seat	1	Generic briefs, L/XL – 18 count	4 pkgs
Toilet arm assist	1	Prevail daily male guards – one size fits all – maximum absorbency-14 count	2 pkgs
Toilet rail	1	Prevail Nu-fit daily briefs w/ fastener tabs – 32"-44" size – maximum absorbency-16 count	2 pkgs
Toilet seats	3	Women's Always Discreet s/m/ p/m maximum protection underwear – 42 count	2 pkgs
Transfer pole	2	Women's Always Anti-Bunch extra long panty liners. Extra protection – 92 count	1 pkg
Transport chairs	11		
Tub rail	1		
U-step	1		
Walkers with wheels & seat	9		
Waterproof mattress protector (Twin)	1		
Wheelchairs	8		

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PARKINSON'S PERSPECTIVE

MAY 2024

Coming Events

See inside for more information

May 4th - Reg Mtg at Central United Methodist Church – 10 am
Program: Launching Neuropong in Colorado Springs; Dr. Antonio Barber, MD

June 1st - Reg Mtg at Central United Methodist Church – 10 am; **Program:** Break-Out Sessions
Caregivers & Parkinsonians separate into different rooms to talk

July 6th - Reg Mtg at Central United Methodist Church – 10 am; **Program:** TBD

August 3rd - Annual Picnic at the Barn pavilion at John Venezia Park!!!

September 7th - Reg Mtg at Central United Methodist Church – 10 am
Program: Scam Prevention; **Speaker:** Scott Mathis, CSPD

More useful websites:

<https://parkinsonsnewstoday.com>; www.parkinsonrockies.org; www.parkinson.org; www.nwpf.org; michaeljfoxfoundation.org;
<http://caremap.parkinson.org>; <https://www.brainhq.com/world-class-science/published-research/active-study>;
www.davisphinneyfoundation.org/living-pd/webinar/videos/cognitive-nonmotor-symptoms-parkinsons; www.parkinsonheartland.org;
<https://www.pdself.org>; https://www.youtube.com/playlist?list=PLkPIhQnN7cN6dAJZ5K5zQzY84btUTLo_C; pmdalliance.org;
<https://www.michaeljfox.org/foundation/news-detail.php?self-care-tips-for-parkinson-disease-caregivers>